

Supplementary Figure 1

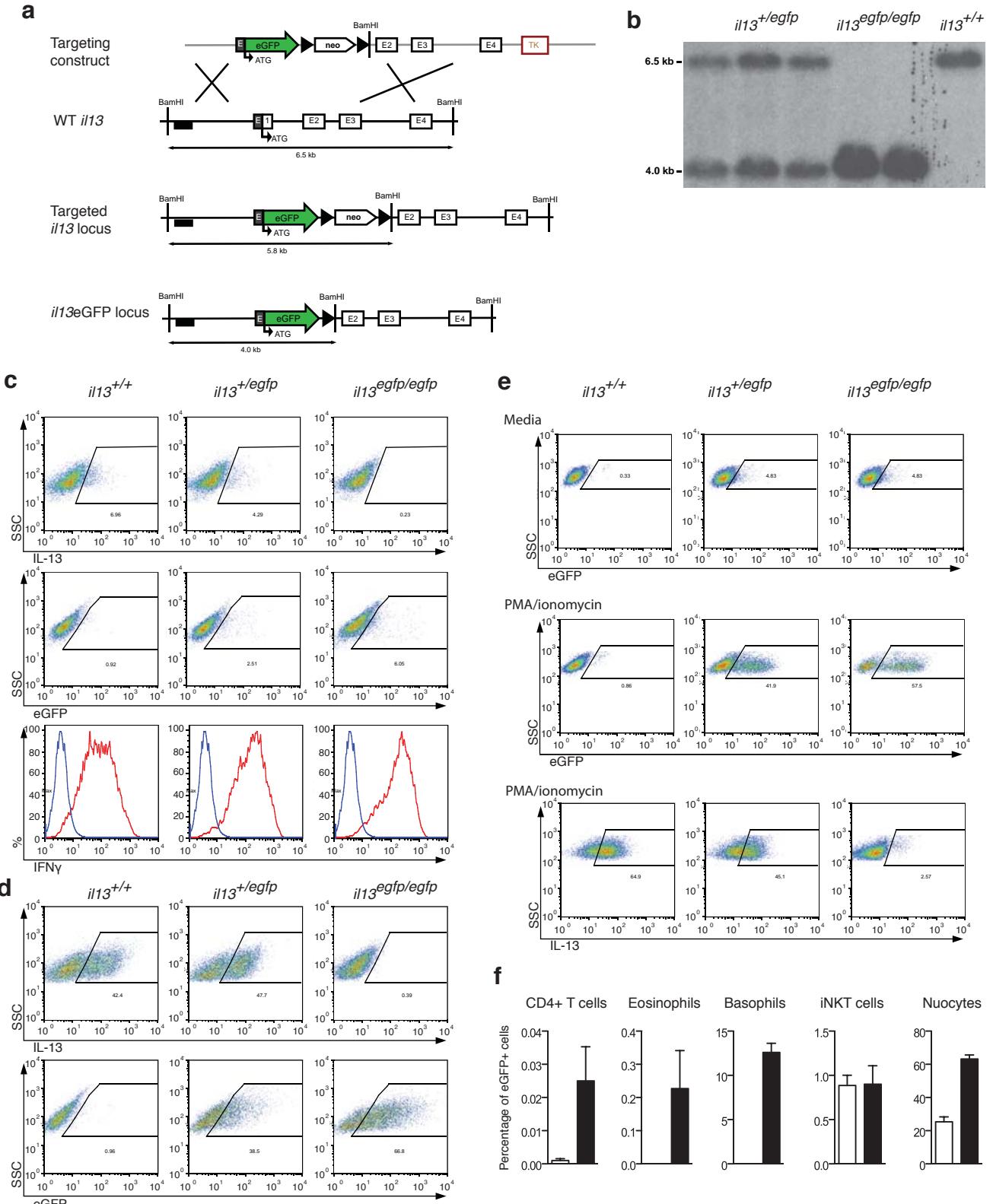


Figure S1. Generation and characterisation of *iL13eGFP* mice. (a) Targeting strategy to insert the eGFP gene at the start codon of the *iL13* gene. (b) Southern blot analysis of BamHI-digested genomic DNA from wildtype and heterozygote or homozygote *iL13eGFP* mice. (c-e) IL-13 production in cultured T-cells and mast cells. CD4+ splenocytes from mice of the indicated genotypes were cultured under Th1 (c) or Th2 (d) conditions. Dot plots of gated live cells show eGFP or IL-13 production (intracellular staining), and histograms show interferon gamma production (in red, blue is isotype control). (e) Bone marrow derived mast cells. Dot plots show eGFP or IL-13 (intracellular staining) production. Data in (c) – (e) are representative of two independent experiments with two mice per group. (f) eGFP+ cells as percentage of total in different populations from infected (black bars) and uninfected (white bars) *iL13eGFP* heterozygous animals. CD4+ T cells, iNKT cells and Nuocytes are from the mLN at 5 days post infection (d.p.i.), eosinophils are from peritoneal lavage at 8 d.p.i. and basophils are from spleen at 8 d.p.i.

Supplementary Figure 2

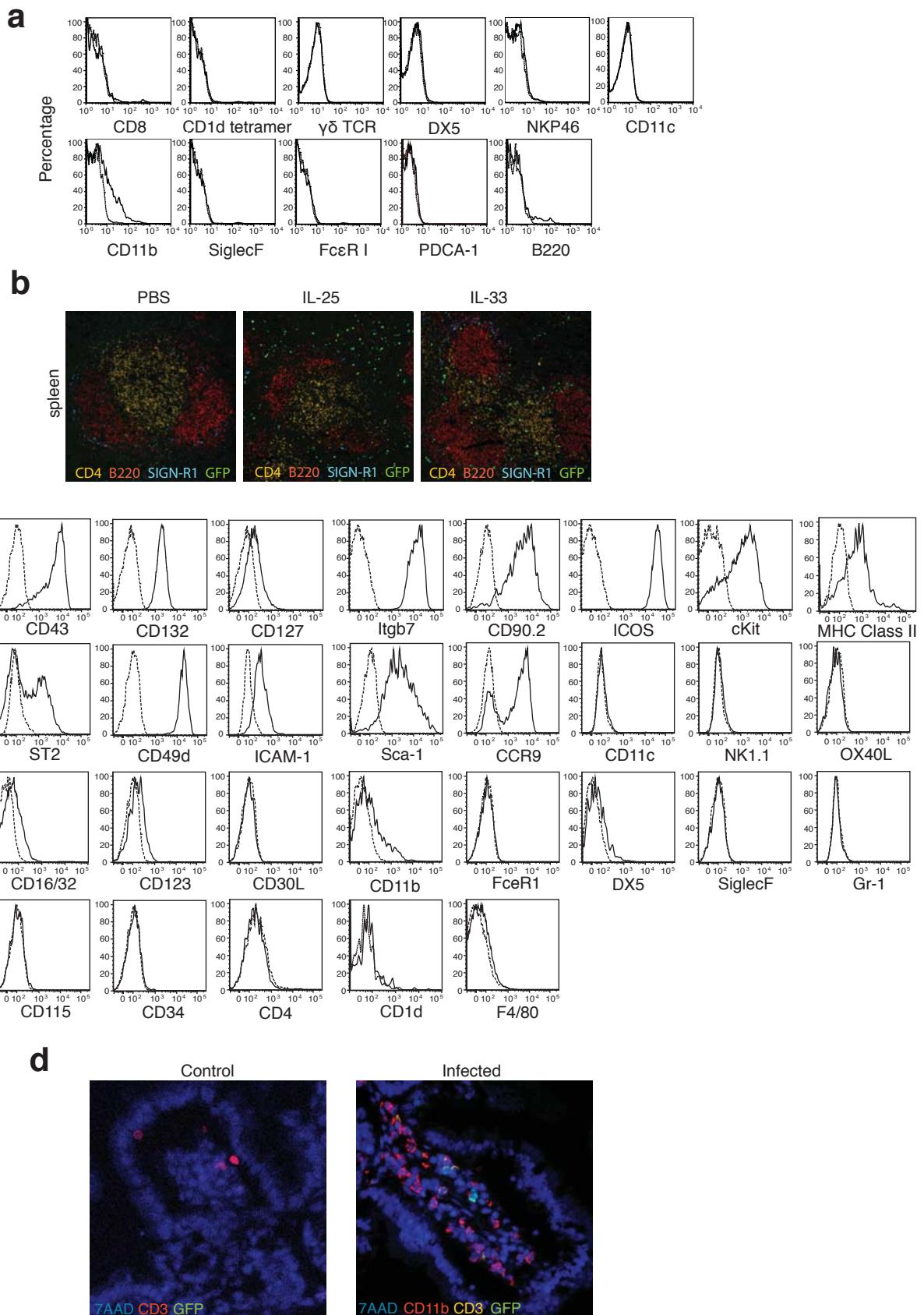


Figure S2. Phenotypic characterisation of nuocytes. (a) Cell surface marker expression of II13eGFP+ cells in the MLN following IL-25 administration. (b) Detection of NBNT II13eGFP+ cells in the spleen of IL-25 and IL-33 treated mice. (c) Flow cytometry analysis of cell surface markers expressed by nuocytes in spleen following three daily i.p. doses of IL-25. Specific antibodies (solid line) or isotype control (dashed line). Results shown in (a) – (c) are representative of at least 3 independent experiments with >3 mice per group. (d) Identification of NBNT II13eGFP+ cells in the small intestine 9 days p.i. with *N. brasiliensis*. Results are from two experiments with 2 mice per group.

Supplementary Figure 3

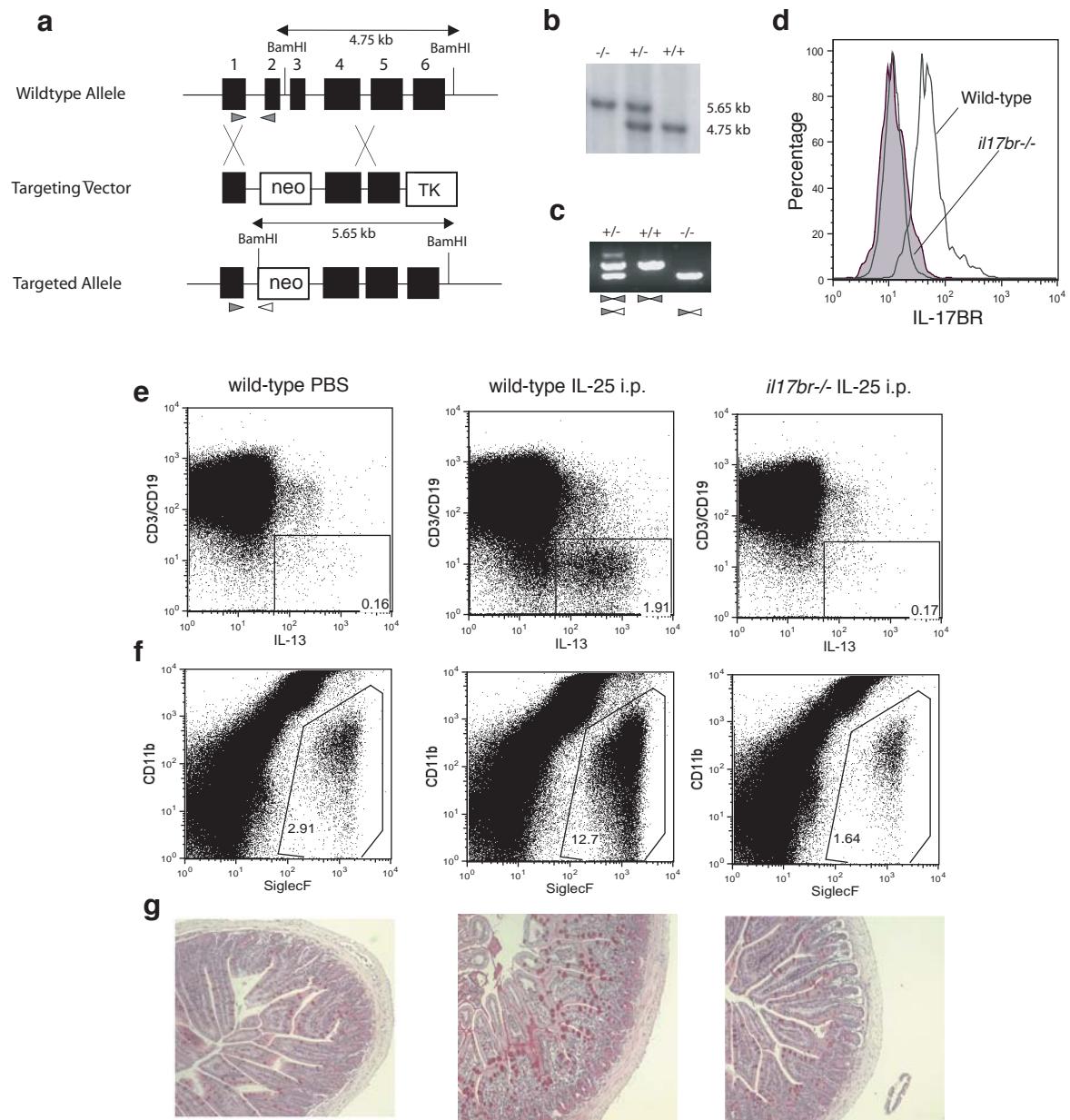


Figure S3. Generation and characterisation of *il17br*-/- mice and anti-IL-17BR antibodies. (a) Targeting strategy for *il17br*. Neo; neomycin cassette. TK; thymidine kinase cassette. Triangles represent locations of PCR genotyping primers. (b) Southern blot of BamHI-digested genomic DNA from wild-type (+/+) and heterozygote (-/+) mice. (c) PCR genotyping of the wild-type (+/+) and homozygote (-/-) *il17br* alleles. (d) Flow cytometric analysis of IL-17BR expression on in vitro differentiated Th2 cells from wildtype or *il17br*-/- animals. The shaded line represents isotype-control staining. (e) Intracellular IL-13 staining in NBNT-cells in the mLN. (f) Eosinophil (SiglecFhigh, CD11bint) influx into the peritoneal cavity. (g) PAS staining of intestinal sections. Mucus and goblet cells stain pink. Data in (e) – (g) are representative of three independent experiments with >4 mice per group given three i.p. administrations of IL-25.

Supplementary Figure 4

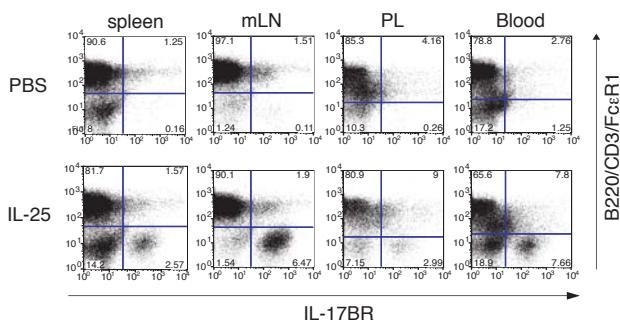


Figure S4. Tissue distribution of nuocytes

following four daily administrations i.p. of IL-25.

PL: peritoneal lavage. Data are representative of at least three independent experiments with >4 mice per group.

Supplementary Figure 5

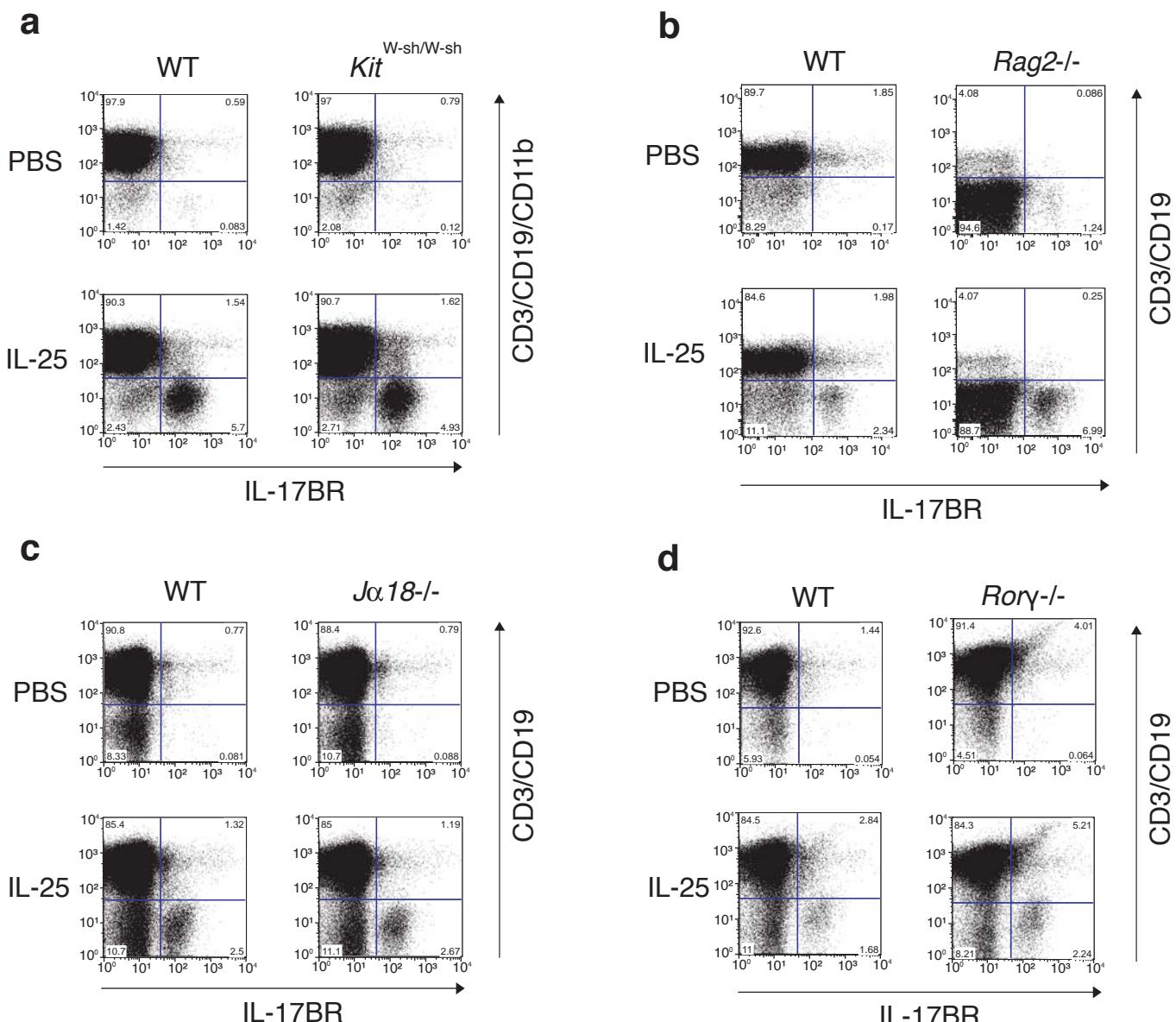


Figure S5. Nuocytes have a distinct developmental requirement from mast cells, B/T cells and NKT cells. Flow cytometric analysis of mice given 3 daily i.p. injections of IL-25 (a) Splenic nuocytes in mast cell-deficient Kit mutant (KitW-sh/W-sh) mice. (b) Splenic nuocytes in T and B lymphocyte-deficient Rag-/- mice. (c) Splenic nuocytes in NKT cell-deficient Jα18-/- mice. (d) Splenic nuocytes in LTi-deficient Rory-/- mice. Results shown are representative of at least two independent experiments with >3 mice per group.

Supplementary Figure 6

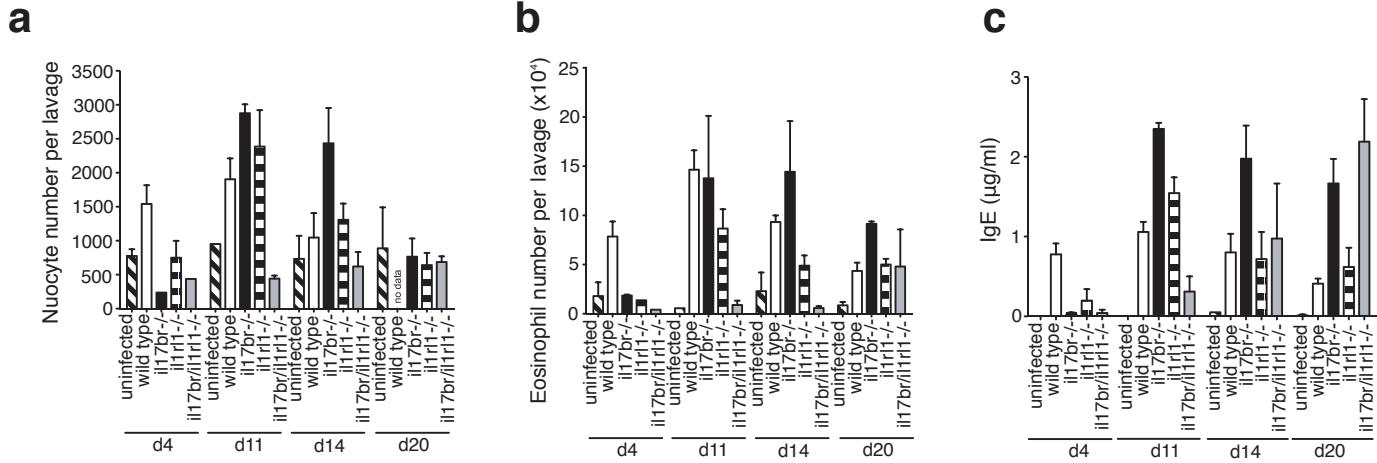


Figure S6. IL-25 and IL-33 have redundant functions in *N. brasiliensis* infection. (a) Quantification of nuocytes in the peritoneal lavage. (b) Quantification of eosinophils in the peritoneal lavage. (c) Quantification of total IgE in the serum. Data are representative of two independent experiments with >6 mice per group.

Supplementary Figure 7

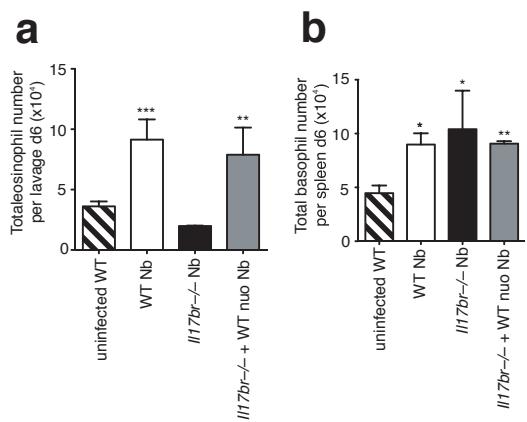


Figure S7. Eosinophil and basophil numbers following *N. brasiliensis* infection. (a) Quantification of peritoneal lavage eosinophil numbers 6 days p.i. (b) Quantification of basophil numbers in the spleen 6 days p.i. Data are representative of two independent experiments with > 6 mice per group.

Supplementary Figure 8

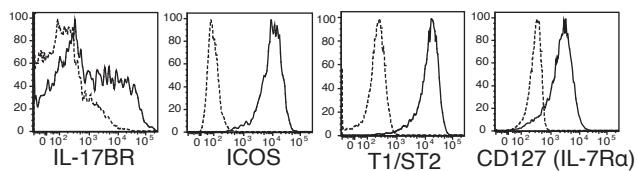


Figure S8. Flow cytometric analysis of nuocytes after 7 day culture with IL-7 and IL-33. Data are representative of three independent experiments.

Supplementary Figure 9

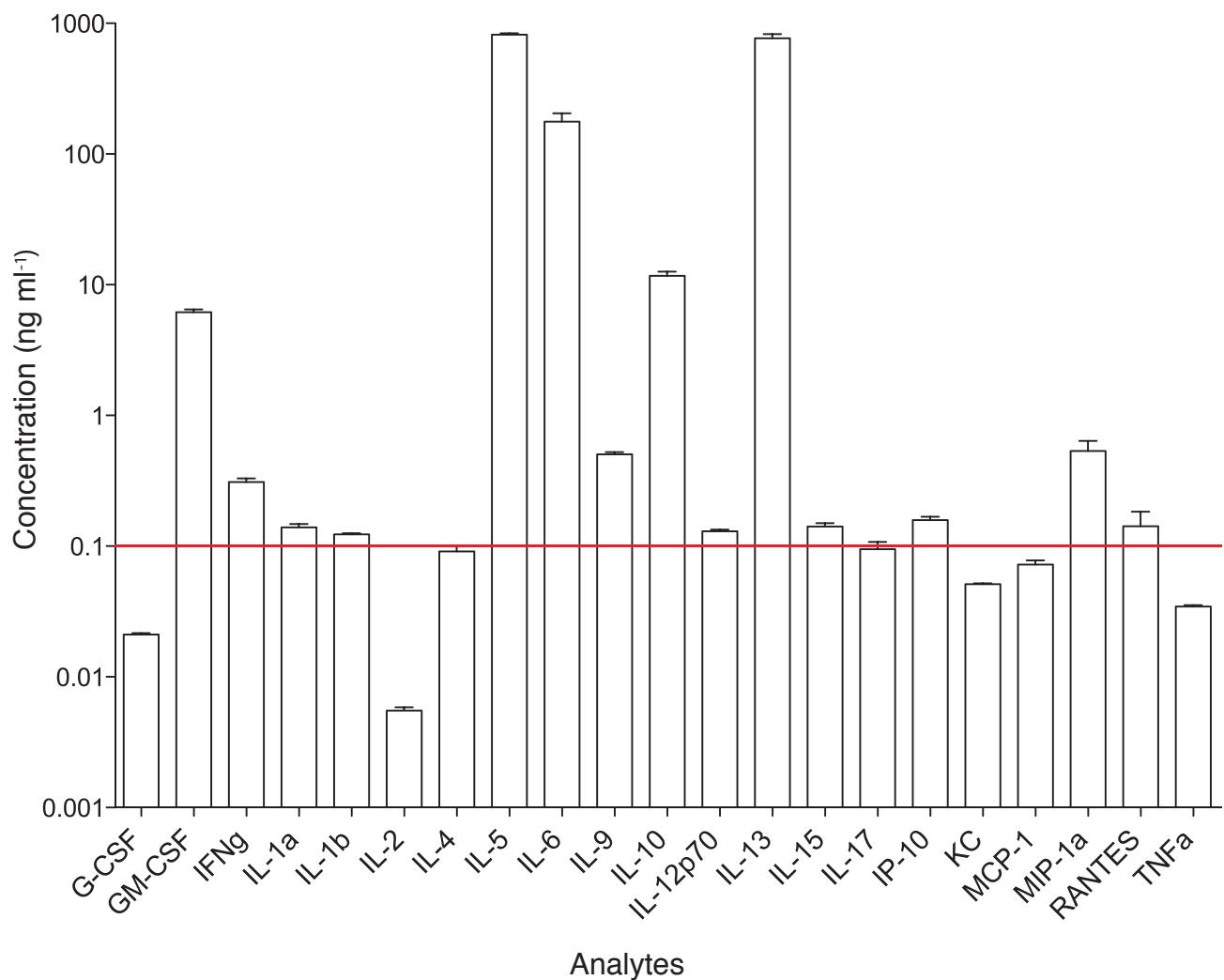


Figure S9. Cytokine/chemokine profile from neutocyte culture supernatant. Data are the mean \pm SEM of 5 separate experiments.

Table 1

Affymetrix gene expression profiles of isolated nuocytes

	Probeset ID	Gene name	Expression signal	
			nuocyte1	nuocyte2
Chemokine receptors	1448710_at	<i>Cxcr4</i>	1924	2120
	1422812_at	<i>Cxcr6</i>	2504	1898
	1421920_a_at	<i>Ccr9</i>	8422	8422
Cytokine receptors	1425145_at	<i>Il1rl1</i>	2740	2539
	1420692_at	<i>Il2ra</i>	247	280
	1448759_at	<i>Il2rb</i>	1499	1552
	1416296_at	<i>Il2rg</i>	5185	4905
	1448575_at	<i>Il7r</i>	3259	2957
	1419455_at	<i>Il10rb</i>	729	639
	1418166_at	<i>Il12rb1</i>	298	338
	1420905_at	<i>Il17ra</i>	4360	4068
	1420678_a_at	<i>Il17rb</i>	5673	5078
	1449508_at	<i>Il27ra</i>	3743	3343
Adhesion molecules	1439713_at	<i>Itga1</i>	399	313
	1427615_at	<i>Itga4</i>	294	377
	1449216_at	<i>Itgae</i>	826	755
	1452784_at	<i>Itgav</i>	2837	2916
	1450678_at	<i>Itgb2</i>	2557	2195
	1455257_at	<i>Itgb3</i>	6657	6252
	1418741_at	<i>Itgb7</i>	9675	9090
	1424067_at	<i>Icam1</i>	541	969
	1448862_at	<i>Icam2</i>	1795	1846
Other cell surface molecules	1420788_at	<i>Klrg1</i>	10960	10513
	1436598_at	<i>Icos</i>	8719	8306
	1423135_at	<i>Thy1</i>	2020	1965
	1453304_s_at	<i>Ly6e</i>	1314	1468
	1452514_a_at	<i>Kit</i>	352	333
	1423760_at	<i>Cd44</i>	1746	2020

Gene expression profiles of selected cell surface molecules for isolated nuocytes were analysed as described in Methods. Values are shown as Affymetrix expression signal intensity for two nuocyte samples.